



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0547; Project Identifier MCAI-2021-00574-T]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus SAS Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain Airbus SAS Model A318, A319, A320, A321, A330-200, A330-200 Freighter, A330-300, A330-800, A330-900, A340-200, A340-300, A340-500, A340-600, and A380-800 series airplanes. This proposed AD was prompted by a determination that repetitive disconnection and reconnection of certain parts manufacturer approval (PMA) nickel-cadmium (Ni-Cd) batteries during airplane parking or storage could lead to a reduction in capacity of those batteries. This proposed AD would require replacing certain PMA Ni-Cd batteries with serviceable Ni-Cd batteries, or maintaining the electrical storage capacity of those PMA Ni-Cd batteries during airplane storage or parking. This proposed AD corresponds to a previously proposed AD on type design Ni-Cd batteries with the same unsafe condition on the same model airplanes. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Airbus SAS, Airworthiness Office – EIAS, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <https://www.airbus.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0547; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Dan Rodina, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206–231–3225; email [dan.rodina@faa.gov](mailto:dan.rodina@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

## **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0547; Project Identifier MCAI-2021-00574-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

## **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Dan Rodina, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3225; email

dan.rodina@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA issued an NPRM, Docket Number FAA-2021-0350, which published in the *Federal Register* on May 11, 2021 (86 FR 25810). The NPRM addresses an unsafe condition for certain type design Ni-Cd batteries on all Airbus SAS Model A318, A319, A320, A321, A330-200, A330-200 Freighter, A330-300, A330-800, A330-900, A340-200, A340-300, A340-500, A340-600, and A380-800 series airplanes. The NPRM corresponds to European Union Aviation Safety Agency (EASA) AD 2020-0274, dated December 10, 2020 (EASA AD 2020-0274). The NPRM was prompted by a report that repetitive disconnection and reconnection of certain Ni-Cd batteries during airplane parking or storage could lead to a reduction in capacity of those batteries.

PMA Ni-Cd batteries are similar in design to the type design Ni-Cd batteries. The FAA has determined that any PMA part approved for the type design Ni-Cd batteries identified in the May 11, 2021 NPRM are also affected by the unsafe condition; therefore, this proposed AD would apply to those PMA Ni-Cd batteries.

The FAA has determined that repetitive disconnection and reconnection of certain PMA Ni-Cd batteries during airplane parking or storage could lead to a reduction in capacity of those batteries. The FAA is proposing this AD to address reduced capacity of certain PMA Ni-Cd batteries, which could lead to reduced battery endurance performance and possibly result in failure to supply the minimum essential electrical power during abnormal or emergency conditions.

## **Related Service Information Under 1 CFR Part 51**

Airbus has issued Alert Operators Transmission (AOT) A24N006-20, dated September 9, 2020; AOT A24L007-20, dated September 23, 2020; and AOT A24R009-20, dated September 23, 2020. This service information describes procedures

for maintaining the electrical storage capacity of Ni-Cd batteries during airplane storage or parking. These documents are distinct since they apply to different airplane models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **FAA's Determination**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the MCAI and service information referenced above. The FAA is proposing this AD because the FAA evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop on other products of the same type design.

### **Proposed AD Requirements in this NPRM**

This proposed AD would require replacing certain PMA Ni-Cd batteries with serviceable Ni-Cd batteries, or maintaining the electrical storage capacity of those PMA Ni-Cd batteries during airplane storage or parking.

### **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect up to 1,814 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

#### **Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
5 work-hours X \$85 per hour = \$425	\$8,000	\$8,425	Up to \$15,282,950

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**Airbus SAS:** Docket No. FAA-2021-0547; Project Identifier MCAI-2021-00574-T.

#### (a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### (b) Affected ADs

None.

#### (c) Applicability

This AD applies to Airbus SAS airplanes identified in paragraphs (c)(1) through (7) of this AD, certificated in any category, equipped with any parts manufacturer approval (PMA) part approved for the type design nickel cadmium (Ni-Cd) batteries identified in Figure 1 to paragraph (c) of this AD.

**Figure 1 to paragraph (c) – Ni-Cd battery**

Airplane Type	Part Number
A318, A319, A320 and A321	2758 or 416526
A330 and A340	4059, 405CH or 505CH
A380	505CH2

(1) Model A318-111, -112, -121, and -122 airplanes.

(2) Model A319-111, -112, -113, -114, -115, -131, -132, -133, -151N, -153N, and -171N airplanes.

(3) Model A320-211, -212, -214, -215, -216, -231, -232, -233, -251N, -252N, -253N, -271N, -272N, and -273N airplanes.

(4) Model A321-111, -112, -131, -211, -212, -213, -231, -232, -251N, -251NX, -252N, -252NX, -253N, -253NX, -271N, -271NX, -272N, and -272NX airplanes.

(5) Model A330-201, -202, -203, -223, -223F, -243, -243F, -301, -302, -303, -321, -322, -323, -341, -342, -343, -743L, -841, and -941 airplanes.

(6) Model A340-211, -212, -213, -311, -312, -313, -541, -542, -642, and -643 airplanes.

(7) Model A380-841, -842, and -861 airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 24, Electrical Power.

**(e) Unsafe Condition**

This AD was prompted by a determination that repetitive disconnection and reconnection of certain PMA Ni-Cd batteries during airplane parking or storage could lead to a reduction in capacity of those batteries. The FAA is issuing this AD to address reduced capacity of certain PMA Ni-Cd batteries, which could lead to reduced battery endurance performance and possibly result in failure to supply the minimum essential electrical power during abnormal or emergency conditions.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Definitions**

(1) For the purposes of this AD, a serviceable PMA Ni-Cd battery is defined as a PMA battery approved for a Ni-Cd battery identified in Figure 1 to paragraph (c) of this AD, all serial numbers, which was, prior to installation, fully (re)charged in an approved



battery shop at constant current and after (re)charging, was never installed and (re)connected to an airplane which was parked or stored for more than 2 days, except when the disconnection and subsequent connection of the battery has been accomplished using the preservation procedures as defined in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD. Where the applicable service information refers to Ni-Cd battery part numbers, use those procedures, as applicable, for the PMA batteries that are approved for that part number.

(i) For A318, A319, A320 and A321 airplanes: Airbus Alert Operators Transmission (AOT) A24N006-20, dated September 9, 2020.

(ii) For A330 and A340 airplanes: Airbus AOT A24L007-20, dated September 23, 2020.

(iii) For A380 airplanes: Airbus AOT A24R009-20, dated September 23, 2020.

(2) For the purposes of this AD, a serviceable non-PMA Ni-Cd battery is defined as a type design Ni-Cd battery having a part number identified in Figure 1 to paragraph (c) of this AD, all serial numbers, which was, prior to installation, fully (re)charged in an approved battery shop at constant current and after (re)charging, was never installed and (re)connected to an airplane which was parked or stored for more than 2 days, except when the disconnection and subsequent connection of the battery has been accomplished using the preservation procedures as defined in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD.

(3) For the purposes of this AD, a reconnection cycle is defined as one instance of disconnection and connection of a battery, installed on an airplane, to the airplane electrical system during parking or storage periods (for A330 and A340 airplanes) or parking periods (for A318, A319, A320, A321 and A380 airplanes) since the last battery charge at constant current in an approved battery shop, as defined in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD, except when

the conditions specified in paragraph (g)(3)(i) or (ii) have been met. Where the applicable service information refers to Ni-Cd battery part numbers, use those procedures, as applicable, for the PMA batteries that are approved for that part number.

(i) The on-wing battery preservation procedures as defined in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD have been applied.

(ii) The battery has been disconnected, physically removed from the airplane and then subsequently installed and connected following a shop visit as defined in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD.

(4) For the purposes of this AD: Group 1 airplanes are those which have a PMA part approved for Ni-Cd batteries identified in Figure 1 to paragraph (c) of this AD installed, which has more than 4 reconnection cycles. Group 2 airplanes are those which have a PMA part approved for Ni-Cd batteries identified in Figure 1 to paragraph (c) of this AD installed, which has 4 or less reconnection cycles, or have a serviceable PMA Ni-Cd battery.

#### **(h) Replacement**

(1) For Group 1 airplanes: Within the applicable compliance time specified in paragraphs (h)(1)(i) and (ii) of this AD and thereafter before each release to service of an airplane after parking or storage, as applicable, replace each PMA part approved for a Ni-Cd battery identified in Figure 1 to paragraph (c) of this AD with a serviceable PMA Ni-Cd battery or serviceable non-PMA Ni-Cd battery, in accordance with the instructions of the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD. Where the applicable service information refers to Ni-Cd battery part numbers, use those procedures, as applicable, for the PMA batteries that are approved for that part number. After replacement of a battery with a serviceable PMA Ni-Cd battery, the airplane becomes a Group 2 airplane.

Note 1 to paragraph (h)(1): For airplanes on which a battery is replaced with a serviceable non-PMA Ni-Cd battery, the airplane is no longer affected by this AD. Refer to Docket Number FAA-2021-0350 (86 FR 25810; May 11, 2021) [as a notice of proposed rulemaking] for requirements for serviceable non-PMA Ni-Cd batteries.

Note 2 to paragraph (h)(1): For Group 1 and Group 2 airplanes, guidance on preventing further reduction of the capacity of Ni-Cd batteries can be found in the off-wing or on-wing battery preservation procedures (including battery shop visits, as applicable) detailed in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD.

(i) For A318, A319, A320 and A321 airplanes: Within 4 months after the effective date of this AD.

(ii) For A330, A340, and A380 airplanes: Within 6 months after the effective date of this AD.

(2) For Group 2 airplanes: A Group 2 airplane on which the preservation procedures, as detailed in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD, are not accomplished becomes a Group 1 airplane after application of more than 4 reconnection cycles and must comply with paragraph (h)(1) of this AD. A Group 2 airplane on which preservation procedures, as detailed in the applicable service information specified in paragraphs (g)(1)(i) through (iii) of this AD, continue to be accomplished, remains a Group 2 airplane. Where the applicable service information refers to Ni-Cd battery part numbers, those procedures, as applicable, must be used for the PMA batteries that are approved for that part number.

**(i) Preservation**

For Group 2 airplanes: As of the effective date of this AD, provided that the preservation procedures (off-wing or on-wing, as applicable) are accomplished on an airplane in accordance with the instructions of the applicable service information

specified in paragraphs (g)(1)(i) through (iii) of this AD, no replacements of affected parts in accordance with the requirements of paragraph (h)(1) of this AD are required (anymore) for that airplane. Where the applicable service information refers to Ni-Cd battery part numbers, those procedures, as applicable, must be used for the PMA batteries that are approved for that part number.

**(j) No Reporting Requirement**

Although the service information specified in paragraphs (g)(1)(i) through (iii) of this AD specifies to submit certain information to the manufacturer, this AD does not include that requirement.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, Large Aircraft Section, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the Large Aircraft Section, International Validation Branch, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, Large Aircraft Section, International Validation Branch, FAA; or the European Union Aviation Safety Agency (EASA); or Airbus SAS's EASA Design

Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(3) *Required for Compliance (RC)*: Except as required by paragraph (k)(2) of this AD, if any service information contains paragraphs that are labeled as RC, the instructions in RC paragraphs, including subparagraphs under an RC paragraph, must be done to comply with this AD; any paragraphs, including subparagraphs under those paragraphs, that are not identified as RC are recommended. The instructions in paragraphs, including subparagraphs under those paragraphs, not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the instructions identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to instructions identified as RC require approval of an AMOC.

#### **(l) Related Information**

(1) For more information about this AD, contact Dan Rodina, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3225; email [dan.rodina@faa.gov](mailto:dan.rodina@faa.gov).

(2) For service information identified in this AD, contact Airbus SAS, Airworthiness Office – EIAS, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <https://www.airbus.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on June 29, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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